

We claim:

1. A method for storing and accessing at least one medium sensing time histogram measurement report (200) by a plurality of wireless network devices (301), comprising the steps of:

in a device of said plurality,

- providing a table (404) having at least one entry (500) for storage of and access to at least one medium sensing time histogram measurement report (200);

- obtaining at least one medium sensing time histogram measurement report (200);

- storing the obtained at least one medium sensing time histogram measurement report as said at least one entry (500) in the provided table (404); and

- identifying the source (504) of the medium sensing time histogram measurement.

2. The method of claim 1, wherein said obtaining step further comprises at least one of the steps of:

receiving (703) the medium sensing time histogram measurement report from another device of said plurality of devices; and

generating the medium sensing time histogram measurement report by the device (602) (702).

3. The method of claim 2, wherein said receiving step further comprises the step of first requesting (701) the medium sensing time histogram measurement report from another device of said plurality of devices.

4. The method of claim 2, wherein said generating step further comprises the steps of:

including in the medium sensing time histogram measurement report (200) at least one bin (210) comprising a count of occurrences of a predetermined type of medium event, each bin (210) corresponding to a predetermined time interval;

first sensing the medium for at least one said predetermined time interval;

while performing the sensing step, counting a number of occurrences of at least one predetermined type of medium sensing event (104); and

entering the count into the at least one bin (210) of the medium sensing time histogram measurement corresponding to the predetermined type and predetermined time interval.

5. The method of claim 4, wherein said sensing step further comprises performing said sensing step for a predetermined frequency channel band (102) of a predetermined frequency channel (101) for the predetermined type.

6. The method of claim 5, wherein said storing step further comprises the step of purging said at least one entry (500) according to a predetermined time-dependent rule.

7. The method of claim 6, wherein said storing step further comprises the step of storing said at least one measurement in a first-in-first-out order (603) (704) in said provided table (404).

8. The method of claim 7, wherein:
said provided table (404) is a medium sensing time histogram report table contained in a management information base table located in each said wireless network device (301) of said plurality; and
each said device of said plurality of devices is an IEEE 802.11 wireless network device.

9. The method of claim 8, wherein each said at least one bin (210) further comprises a bin index (506) of the position of the bin (210) in the sequence of bins.

10. The method of claim 1, wherein said storing step further comprises the step of purging said at least one entry according to a predetermined time-dependent rule.

11. The method of claim 10, wherein said storing step further comprises the step of storing said at least one measurement in a first-in-first-out order (603) (704) in said provided table .

12. The method of claim 1, wherein:

said provided table is a medium sensing time histogram report table contained in a management information base table located in each said wireless network device (301) of said plurality; and

each said device (301) of said plurality of devices is an IEEE 802.11 wireless network device.

13. An apparatus (400) for storing and accessing a medium sensing time histogram report by a wireless network device (301), comprising:

a receiver (401) that receives at least one of a medium sensed input and a medium sensing time histogram measurement report (200);

a transmitter (407) that transmits a medium sensing time histogram measurement request (100);

a memory (403) including a table (404) having at least one entry for storage of at least one medium sensing time histogram report (200);

a processor (402) coupled to the receiver (401) to generate at least one medium sensing time histogram report entry (500) from the at least one medium sensed input and the received medium sensing time histogram measurement report (200); and

a time histogram management module (405) coupled to the processor (402) to receive and deliver a medium sensing time histogram report entry (500) and respectively manage storage thereof as said at least one entry and access thereto as said at least one entry in the table (403) of the memory (404).

14. The apparatus of claim 13, further comprising a timer (406) coupled to the processor (402) for the processor (402) to direct the time histogram management module (405) to purge said at least one entry according to a predetermined time-dependent rule; and wherein said time histogram management module (405) is further configured to purge said at least one entry under the control of the processor (405).

15. The apparatus of claim 14, wherein said time histogram management module (405) is further configured to store said at least one entry in a first-in-first-out order (603) (704) in said table (404) of said memory (403).

16. The apparatus of claim 15, wherein:

said table (404) is a medium sensing time histogram report table contained in a management information base table; and

said wireless network device is an IEEE 802.11 wireless network device.

17. The apparatus of claim 13, wherein:

the receiver (401) is further configured to receive a request (100) for a medium sensing time histogram measurement report (200); and

the transmitter (407) is further configured to transmit a medium sensing time histogram measurement report (401) in response to a received medium sensing time histogram measurement request (100).

18. The apparatus of claim 17, wherein said time histogram management module (405) is further configured to purge said at least one entry according to a predetermined rule.

19. The apparatus of claim 18, wherein said time histogram management module is further configured to store said at least one entry in a first-in-first-out order (603) (704) in said table (404) of said memory (403).

20. The apparatus of claim 19, wherein said at least one entry (500) further comprises a bin table (505) having at least one bin (210) containing a count of occurrences of a predetermined type of medium event, said at least one bin (210) corresponding to a predetermined time interval.

21. The apparatus of claim 20, wherein each said at least one bin (210) further comprises a bin index (506) of the position of the bin (210) in the sequence of bins.

22. The apparatus of claim 21, wherein:

said table is a medium sensing time histogram report table contained in a management information base table; and

said wireless network device is an IEEE 802.11 wireless network device.